

## ABSTRACT

An assay system using labeled probe molecules to identify and quantify target molecules in a sample is disclosed. Where labeled probe molecules are present on a substrate such as a microarray, the identification of multiple different target molecules may be examined simultaneously. Alternatively, a known number of like probe molecules may be present on a substrate and a single target molecule may be quantified in a sample. Preferred labeled probe molecules are comprised fluorescent single stranded nucleotide analogs whose fluorescence is quenched by pairing with a homologous nucleotide target sequence.